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10/619,078	07/15/2003	Masahito Watanabe	12219/37	6989

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EXAMINER
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YODER III, CHRISS S

ART UNIT	PAPER NUMBER
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2622

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/619,078

Applicant(s)

WATANABE ET AL.

Examiner

Chriss S. Yoder, III

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-3 and 5-20 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1-3 and 5-20 of copending Application No.

11/503,215. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 21-34 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1-14 of copending Application No. 11/503,120. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29

USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 4 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 4 of copending Application No. 11/503,215 in view of Lee et al. (US PGPub 2002/0021511). Lee discloses the use of a both a light quantity control filter having at least one transmitting surface wherein a transmittance of a central portion thereof is higher than that of a marginal portion thereof (paragraphs 0036-0037), and a light quantity control filter having at least one transmitting surface having a transmittance higher at its peripheral portion than at its central portion (paragraph 0033). It is well known to one of ordinary skill in the art that the filter can be adjusted in order to obtain the desired intensity distribution over the imaging array (paragraph 0011).

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 6, and 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Goosey, Jr. (US Patent # 6,377,404).
4. In regard to **claim 1**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups wherein a spacing between individual lens groups is varied to vary a focal length (column 3, lines 36-39 and figures 1-3) and an aperture stop located in an optical path for limiting at least an axial light beam diameter (column 4, lines 37-38 and figure 1:16), and an electronic image pickup device located on an image side of the zoom lens (column 4, lines 56-61 and figure 1:15), characterized in that the aperture stop has a fixed shape (column 4, lines 37-38 and figure 1:18), and a filter for performing light quantity control by varying transmittance is located on an optical axis of a space located at a position different from that of a space in which the aperture stop is located (column 4, lines 56-67 and figure 1:18).
5. In regard to **claim 3**, note Goosey discloses that the filter is located in a minimum air space among variable air spaces in the zoom lens or in a longest air space among constant air spaces in the zoom lens (figure 1: 18).
6. In regard to **claim 6**, note Goosey discloses that the aperture stop is located between lens groups between which there is an air spacing variable upon zooming or focusing (figures 1-3: 12, 14, and 16), and the light quantity control filter is located at a position different from the air spacing (figures 1-3: 18).

7. In regard to **claim 10**, note Goosey discloses the zoom lens comprises at least a first lens group having negative refracting power (column 2, lines 27-42 and figure 1:12) and a second lens group having positive refracting power (column 2, lines 27-42 and figure 1:14), located just after the first lens group, wherein a spacing between the first lens group having negative refracting power and the second lens group having positive refracting power becomes narrower at a telephoto end than at a wide-angle end of the zoom lens (column 3, lines 5-12 and figures 1-3), the aperture stop is located between a surface in the first lens group having negative refracting power, said surface being located nearest to an image side of the zoom lens, and an image side-surface in the second lens group having positive refracting power (figure 1: 12, 14, and 16, the aperture 16 is between the first and second lens groups), and the light quantity control filter is located on an image plane side with respect to the aperture stop (column 4, lines 56-67 and figure 1: 18).

8. In regard to **claim 11**, note Goosey discloses the first lens group having negative refracting power is located nearest to the object side of the zoom lens (column 2, lines 27-42 and figure 1: 12).

9. In regard to **claim 12**, note Goosey discloses the zoom lens comprises, in order from an object side thereof, the first lens group having negative refracting power and the second lens group having positive refracting power, and lens groups movable for zooming are defined by only two lens groups, i.e., the first lens group having negative refracting power and the second lens group having positive refracting power (column 2, lines 27-42 and figure 1: 12 and 14).

10. In regard to **claim 13**, note Goosey discloses the plurality of lens groups consist of, in order from the object side thereof, only two lens groups, i.e., the first lens group having negative refracting power and the second lens group having positive refracting power (column 2, lines 27-42 and figure 1: 12 and 14).

11. In regard to **claim 14**, note Goosey discloses the aperture stop is located in an air space just before the second lens group having positive refracting power (figure 1: 14 and 16).

12. In regard to **claim 15**, note Goosey discloses the light quantity control filter is located in an air space just after the second lens group having positive refracting power (figure 1: 14 and 18).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404) in view of Lee et al. (US PGPub # 2002/0021511).

14. In regard to **claim 4**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 1. Therefore, it can be seen that Goosey fails to disclose that the light quantity control filter comprises at least one transmitting surface wherein a transmittance of a central portion thereof is

higher than that of a marginal portion thereof. Lee discloses the use of a light quantity control filter having at least one transmitting surface wherein a transmittance of a central portion thereof is higher than that of a marginal portion thereof (paragraphs 0036-0037). It is well known in the art, that the use of a light quantity control filter having at least one transmitting surface wherein a transmittance of a central portion thereof is higher than that of a marginal portion thereof is preferred in order to provide uniform illumination on an imaging array. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device such that the light quantity control filter comprises at least one transmitting surface wherein a transmittance of a central portion thereof is higher than that of a marginal portion thereof, in order to provide uniform illumination on an imaging array.

15. Claims 5 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404) in view of Sekiguchi (US Patent # 5,982,423).

16. In regard to **claim 5**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 1. Therefore, it can be seen that Goosey fails to disclose that the light quantity control filter is tiltable with respect to an optical axis. Sekiguchi discloses the use of a light quantity control filter that can be tilted with respect to the optical axis (column 3, line 60 – column 4, line 4 and figures 2c-2d). Sekiguchi teaches that the use of a light quantity control filter that can be tilted with respect to the optical axis is preferred in order to provide different sensitivity levels for image capture (column 3, line 60 – column 4, line 20). Therefore, it



would have been obvious to one of ordinary skill in the art to modify the Goosey device such that the light quantity control filter can be tilted with respect to the optical axis, in order to provide different sensitivity levels for image capture, as suggested by Sekiguchi.

17. In regard to **claim 19**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 1. Therefore, it can be seen that Goosey fails to disclose that the light quantity control filter can be inserted in or de-inserted from an optical path. Sekiguchi discloses the use of a light quantity control filter that can be inserted in or de-inserted from an optical path (column 3, line 60 – column 4, line 4). Sekiguchi teaches that the use of a light quantity control filter that can be inserted in or de-inserted from an optical path is preferred in order to provide different sensitivity levels for image capture (column 3, line 60 – column 4, line 20). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device such that the light quantity control filter can be inserted in or de-inserted from an optical path, in order to provide different sensitivity levels for image capture, as suggested by Sekiguchi.

18. In regard to **claim 20**, note Sekiguchi discloses that upon retracting from an optical axis, the light quantity control filter fluctuates in such a direction that a filter surface comes close to the optical axis (column 5, lines 23-30 and figure 2d).

19. Claims 7-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404) in view of Kaneko et al. (US Patent # 6,560,040).

20. In regard to **claim 7**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 1. Therefore, it can be seen that Goosey fails to disclose that the aperture stop is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups. Kaneko discloses the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups (column 6, lines 16-60 and figure 12). Kaneko teaches that the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups is preferred in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness (column 6, lines 56-60). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device to include the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups, in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness, as suggested by Kaneko.

21. In regard to **claim 8**, note Kaneko discloses that the aperture stop is located in contact with any lens surface in the lens groups (figures 8 and 12).

22. In regard to **claim 18**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, wherein the aperture stop is located in a variable space (figures 1-3: 12, 14, and 16), both lens surfaces just before and just after the aperture stop are concave on image sides thereof (figure 1: 103(b) and 106(b)). Therefore, it can be seen that Goosey fails to disclose that the aperture stop has a funnel-form outside shape concave toward the image side off and off an optical axis. Kaneko discloses the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis (column 6, lines 16-60 and figure 12). Kaneko teaches that the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis is preferred in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness (column 6, lines 56-60). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device to include the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis, in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness, as suggested by Kaneko.

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404)

24. In regard to **claim 9**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 1. Therefore, it can be seen that Goosey fails to disclose that the aperture stop is formed of an aperture

plate having an aperture on an optical axis side. Official Notice is taken that the concepts and advantages of using an aperture plate having an aperture on an optical axis side (such as a turret containing a plurality of different apertures) are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device to include the use of an aperture stop that is formed of an aperture plate having an aperture on an optical axis side in order to provide a plurality of different apertures to compensate for different exposure conditions.

25. Claims 21-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al. (US Patent # 5,083,149).

26. In regard to **claim 21**, note Kudo discloses the use of an imaging system comprising a zoom lens comprising a plurality of lens groups (column 4, lines 23-32 and figure 1: 25-26) wherein a spacing between individual lens groups is varied to vary a focal length (column 5, lines 53-67) and an aperture stop located in an optical path for limiting at least an axial light beam diameter (column 5, lines 20-39 and figure 1: 32), and an image pickup means located on an image side of the zoom lens (column 4, lines 50-55), characterized in that the aperture stop has a fixed shape (column 5, lines 20-39 and figure 1: 32), and a shutter is located on an optical axis of a space located at a position different from that of a space in which the aperture stop is located (column 4, lines 47-67 and figure 1: 18). Therefore, it can be seen that Kudo fails to disclose that the image pickup means is an electronic image pickup device. Official Notice is taken

that the concepts and advantages of using an electronic image pickup device to replace the use of film in a camera are notoriously well known and expected in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kudo device to include the use of an electronic image pickup device to replace the use of film for image capture in order to produce digital images that can be easily processed/edited for display or storage.

27. In regard to **claim 22**, note Kudo discloses that the aperture stop is located between lens groups between which there is an air space variable upon zooming or focusing, and the shutter is located at a position different from the air space (column 5, line 53 – column 6, line 42 and figure 1: 25-26 and 32).

28. In regard to **claim 25**, note Kudo discloses that the aperture stop is formed of an aperture plate having an aperture on an optical axis side (column 5, lines 20-39 and figure 3).

29. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al. (US Patent # 5,083,149) in view of Kaneko et al. (US Patent # 6,560,040).

30. In regard to **claim 23**, note Kudo discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, as recited in claim 21. Therefore, it can be seen that Kudo fails to disclose that the aperture stop is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups. Kaneko discloses the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to

the optical axis intersects the optical axis within a lens medium in the lens groups (column 6, lines 16-60 and figure 12). Kaneko teaches that the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups is preferred in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness (column 6, lines 56-60). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Kudo device to include the use of an aperture stop that is positioned such that a perpendicular going from the aperture stop down to the optical axis intersects the optical axis within a lens medium in the lens groups, in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness, as suggested by Kaneko.

31. In regard to **claim 24**, note Kaneko discloses that the aperture stop is located in contact with any one of lens surfaces in the lens groups (figures 8 and 12).

32. Claims 21 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404) in view of Kudo et al. (US Patent # 5,083,149).

33. In regard to **claim 21**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups wherein a spacing between individual lens groups is varied to vary a focal length (column 3, lines 36-39 and figures 1-3) and an aperture stop located in an optical path for limiting at least an axial light beam diameter (column 4, lines 37-38 and figure 1:16), and an electronic image pickup device

located on an image side of the zoom lens (column 4, lines 56-61 and figure 1:15), and characterized in that the aperture stop has a fixed shape (column 4, lines 37-38 and figure 1:18). Therefore, it can be seen that Goosey fails to disclose the use of a shutter that is located on an optical axis of a space located at a position different from that of a space in which the aperture stop is located (column 4, lines 47-67 and figure 1: 18). Kudo discloses the use of a zoom lens system having a shutter that is located on an optical axis of a space located at a position different from that of a space in which an aperture stop is located (column 4, lines 47-67 and figure 1: 18). Kudo teaches that the use of a shutter that is located on an optical axis of a space located at a position different from that of a space in which the aperture stop is located is preferred in order to prevent the imaging surface from being exposed during focus detection (column 4, lines 50-55). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Goosey device to include the use of a shutter that is located on an optical axis of a space located at a position different from that of a space in which the aperture stop is located, in order to prevent the imaging surface from being exposed during focus detection, as suggested by Kudo.

34. In regard to **claim 26**, note Goosey discloses that the zoom lens comprises at least a first lens group having negative refracting power (column 2, lines 27-42 and figure 1:12) and a second lens group having positive refracting power, located just after the first lens group (column 2, lines 27-42 and figure 1:14), wherein a spacing between the first lens group having negative refracting power and the second lens group having positive refracting power becomes narrower at a telephoto end than at a wide-angle end

of the zoom lens (column 3, lines 5-12 and figures 1-3), and that the aperture stop is located between a surface in the first lens group having negative refracting power, said surface being located nearest to an image side of the zoom lens, and the image side-surface in the second lens group having positive refracting power (figure 1: 12, 14, and 16, the aperture 16 is between the first and second lens groups). And Kudo discloses that the shutter is located on the image plane side with respect to the aperture stop (column 4, lines 23-54 and figure 1: 18 and 32).

35. In regard to **claim 27**, note Goosey discloses the first lens group having negative refracting power is located nearest to the object side of the zoom lens (column 2, lines 27-42 and figure 1: 12).

36. In regard to **claim 28**, note Goosey discloses the zoom lens comprises, in order from an object side thereof, the first lens group having negative refracting power and the second lens group having positive refracting power, wherein lens groups movable for zooming are defined by only two lens groups, i.e., the first lens group having negative refracting power and the second lens group having positive refracting power (column 2, lines 27-42 and figure 1: 12 and 14).

37. In regard to **claim 29**, note Goosey discloses the plurality of lens groups consists of, in order from its object side, only two lens groups, i.e., the first lens group having negative refracting power and the second lens group having positive refracting power (column 2, lines 27-42 and figure 1: 12 and 14).



38. In regard to **claim 30**, note Goosey discloses the aperture stop is located in an air space just before the lens group having positive refracting power (figure 1: 14 and 16).

39. In regard to **claim 31**, note Kudo discloses the shutter is located in an air space just after the second lens group having positive refracting power (figure 1: 18 and 26).

40. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goosey, Jr. (US Patent # 6,377,404) in view of Kudo et al. (US Patent # 5,083,149), and further in view of Kaneko et al. (US Patent # 6,560,040).

41. In regard to **claim 34**, note Goosey discloses an imaging system comprising a zoom lens comprising a plurality of lens groups, wherein the aperture stop is located in a variable space (figures 1-3: 12, 14, and 16), both lens surfaces just before and just after the aperture stop are concave on image sides thereof (figure 1: 103(b) and 106(b)). Therefore, it can be seen that the primary reference of Goosey in view of Kudo fails to disclose that the aperture stop has a funnel-form outside shape concave toward the image side off and off an optical axis. Kaneko discloses the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis (column 6, lines 16-60 and figure 12). Kaneko teaches that the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis is preferred in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness (column 6, lines 56-60). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary device

to include the use of an aperture stop having a funnel-form outside shape concave toward the image side off and off an optical axis, in order to provide sufficient optical characteristics including a wide angle of view and a very high brightness, as suggested by Kaneko.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US004249798: note the use of an imaging system having an aperture and a shutter along the optical axis.

US005068679: note the use of an imaging system having an aperture and a shutter along the optical axis.

US005087988A: note the use of an imaging system having an aperture that moves integrally with a lens group.

US004196967: note the use of an aperture film placed on a lens.

US006154322A: note the use of an imaging system having two lens groups with an aperture between.

US006449105B1: note the use of an imaging system having a negative first lens and a positive second lens.

US006536960B2: note the use of an imaging system having an aperture and a shutter along the optical axis.

US005534696A: note the use of an imaging system having a filter that tilts away from the optical axis.

US005764425A: note the use of an imaging system having two lens groups with an aperture between.

US006741760B2: note the use of an imaging system having a filter turret.

US005646788A: note the use of an imaging system having an aperture that adjoins one of the lenses.

US 20020141076A1: note the use of an aperture having different attenuation factors for separate regions of the image.

US005541779A: note the use of an aperture having different attenuation factors for separate regions of the image.

US006297915B1: note the use of an aperture located on the surface of a lens.

US 20050083587A1: note the use of a combination of apertures to form a funnel shaped aperture.

US006341901B1: note the use of an aperture located between two lenses.

US006086267A: note the use of an adjustable aperture.

US006833864B1: note the use of an aperture turret.

US 20020015238A1: note the use of a funnel shaped aperture.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (571) 272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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CSY  
December 10, 2007



**LIN YE**  
**SUPERVISORY PATENT EXAMINER**